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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------------------|-------------|----------------------|---------------------|------------------|
| 09/143,233 | 08/28/1998 | ELIYAHOU HARARI | HARI-0600 | 3263 |
| 36257 | 7590 | 06/07/2006 | EXAMINER | |
| PARSONS HSUE & DE RUNTZ LLP | | | NGUYEN, HIEN N | |
| 595 MARKET STREET | | | | |
| SUITE 1900 | | | ART UNIT | PAPER NUMBER |
| SAN FRANCISCO, CA 94105 | | | | 2824 |

DATE MAILED: 06/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

H/A

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/143,233 | HARARI ET AL. | |
| | Examiner | Art Unit | |
| | Hien N. Nguyen | 2824 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on the Amendment filed on 9/22/05.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 68-78 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 68-78 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 11 January 2002 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>3/05, 9/05, 11/05</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input checked="" type="checkbox"/> Other: <u>Search Report</u> . |

DETAILED ACTION

1. Acknowledgment is made of applicant's Information Disclosure statement (IDS) Form PTO-1449, filed on **3/25/05, 9/22/05, 11/10/05 and 11/21/05**. The information disclosed therein was considered.
2. Acknowledgment is made of applicant's Amendment/Remarks made in an amendment filed on 9/22/05.
3. Claims 68-78 are pending in the application.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 68-78 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

For instance, in claims 68, 71 and 74:

a) there is no support for the recitation of "said second group of memory cells being provided for storing attribute data of said first group of memory cells". The full specification **did not** disclose what is considered as an attribute data or what is a

function of storing between a two different groups of memory cells. For instance, the spare portion (405) of Figure 5 is described on page 16, lines 25-35, as an organized area comprising of “*an alternative defects data area 407, a defect map area 409, a header area 411 and an ECC and others area 413*”. There is no discussion, explicitly or impliedly, that this portion is used for storing attribute data. Furthermore, there is no suggestion that this area may or can be used as an attribute data storage.

Accordingly, there is no description in the specification to support the recitation of “storing attribute data” or “attribute data”.

b) there is no support for “said attribute data includes a number of rewriting of said first group of memory cells”. As admitted by the applicant Amendment (also by the disclosure and figure 9), the number (S) is the number of full erase cycles experienced by a block in a sequence of erase algorithm. This number (S) can be used as a preset number to avoid excessive erasing. Thus, **this number (S) is a number of full erase cycles and is not related to “a number of rewriting of a first group of memory cells”** and such description cannot be relied upon for support of this claim recitation.

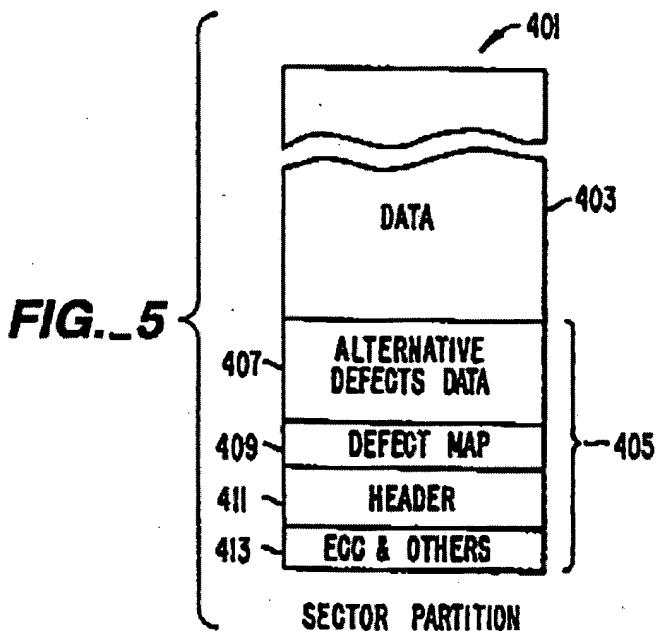
Claims 69-70, 72-73 and 75-78 are rejected because of their dependency of the rejected claims above. No art rejection is applied at this time.

Response to Amendment

Applicant's arguments filed 9/22/05 have been fully considered but they are not persuasive. For instance;

a) In the Remarks on page 5, the Applicant explained that the rejection based on lack of support of limitation attribute data as "the description of Figure 5 given on page 16, lines 23-35, of the present application". This is illustrated as follows:

FIG. 5 illustrates the memory architecture for the cell remapping scheme. As described before, the Flash EEPROM memory is organized into sectors where the cells in each sector are erasable together. The memory architecture has a typical sector 401 organized into a data portion 403 and a spare (or shadow) portion 405. The data portion 403 is memory space available to the user. The spare portion 405 is further organized into an alternative defects data area 407, a defect map area 409, a header area 411 and an ECC and others area 413. These areas contain information that could be used by the controller to handle the defects and other overhead information such as headers and ECC.



The applicant goes further by stating that "*Although this passage may*

use the actual word "attribute", it is clearly describing the "spare portion" as storing, in the plain language meaning of the word, attributes of the "data portion". Thus, the second group of memory cells ("spare (or shadow) portion 405") are storing, in the normal usage of the word, attribute data of the first group of memory cells ("data portion" 403)".

The examiner completely disagrees with the argument above. For instance,

The data portion (403) is just a "spare portion" to be used for a function of spare as defined by the specification. Even though the definition of "attribute" has a broad definition in an English dictionary, the meaning in the field of "nonvolatile memory" does have a specific definition and have a particular function for a specific feature in separate situation in order for a person of ordinary skill in the art to understand and make use of it. Thus, unless the term "attribute" is defined. It is merely a term with no specific function associated therewith. Another word, it has to be defined clearly and specifically and it has to be used consistently in the whole application in order to be consider for patentability.

b) Regarding the response of the rejection based on lack of support of limitation "rewriting number" in the Remarks on page 6, the applicant continued to stretch "the quantity "S" is the number of "program/erase cycles" and thus corresponds to the "rewrite number" of the first group of memory cells".

Again the Examiner found no relation of “*a counter of erase cyclings*” as adequate equivalent support meaning of “*a rewriting number*” in the field of “nonvolatile memory”.

Further, the word of “rewrite” or “a function of rewriting” can not be found anywhere in the passage below as shown in the Remarks on page 6, quoting its support in the parent patent as follow:

“number” as “attribute data” is explicitly and succinctly disclosed at column 28, line 64, to column 29, line 7, patent number 5,095,344:

The number S of complete erase cyclings experienced by each block is an important information at the system level. If S is known for each block then a block can be replaced automatically with a new redundant block once S reaches 1×10^6 (or any other set number) of program/erase cycles. S is set at zero initially, and is incremented by one for each complete block erase multiple pulse cycle. *The value of S at any one time can be stored by using for example twenty bits (2^{20} equals approximately 1×10^6) in each block. That way each block carries its own endurance history.*

Thus, the rejection of the claims as lacking support for the recitation of “rewriting number” is deemed proper and has not been persuasively rebutted.

4. As a result, the claims 68-78 are rejected under 35 USC 112, first paragraph, as failing to comply with the written description requirement from the specification as stated above.

5. Regarding the response of U.S.C. 37 CFR 44.202(a) (1)-(6), the examination must first be completed, see **37 CFR 41.102**, in order to suggest an Interference to the Board of Appeals and Interferences.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

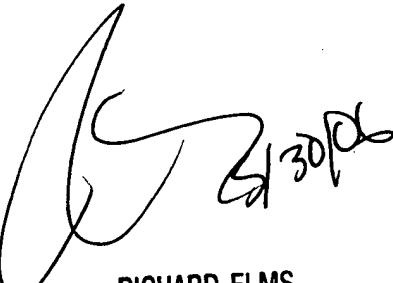
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien N. Nguyen whose telephone number is (571) 272-1879. The examiner can normally be reached on Monday through Thursday 9:30 AM to 7:00 PM..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on (571) 272-1869. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

H. Nguyen 
May 25, 2006



Richard Elms
Supervisory Patent Examiner
Technology Center 2800